

Oak Tree Flash Card Series based on
Identifying Oak Trees Native to Tennessee
by David Mercker, David Buckley, and Brien Ostby
Department of Forestry, Fisheries, and Wildlife
University of Tennessee

[https://extension.tennessee.edu/publications/documents/
PB1731.pdf](https://extension.tennessee.edu/publications/documents/PB1731.pdf)

Copies of this document are to be used only for
educational purposes and by not-for-profit groups



Please keep in mind, when scanning through
this document or if printing as single-sided, that
the graphics are reversed left-to-right
compared with their associated names and
descriptions on the page that follows; they will
line up correctly when printed double sided.

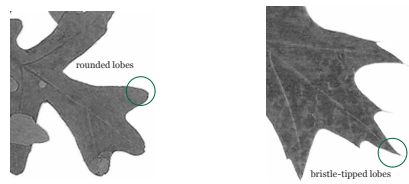


Instructions

1. Print **double sided** on 8.5 x 11 printer paper,
card stock recommended.
2. Cut pages into four pieces (use paper-cutter if
available) first along the vertical centerline
(4.25" from left/right edge) and then along the
horizontal centerline (5.5" from top/bottom
edge). The face with photos/graphics is the
'question' side of the flashcard, to quiz yourself
or someone else ("which oak is this"?). The
description on the back is the answer side.
3. Laminate or (less expensive) place them
individually in clear plastic envelope bags, size
A2 (4-1/2" x 5-7/8"), to take along on hikes.

Do you know the distinguishing
features of the **Red oak group**?

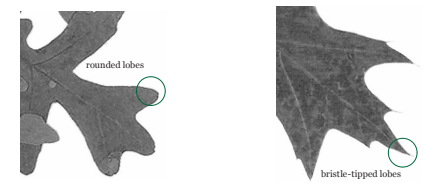
- Are leaf lobes rounded or sharp with
bristles?



- Do acorns mature and drop within one
year or overwinter on the tree?
- Is the inner shell of the nut smooth or
wooly/silky?
- In which season do acorns germinate?
- What color is the bark?

Do you know the distinguishing
features of the **White oak group**?

- Are leaf lobes rounded or sharp with
bristles?



- Do acorns mature and drop within one
year or overwinter on the tree?
- Is the inner shell of the nut smooth or
wooly/silky?
- In which season do acorns germinate?
- What color is the bark?

Bristle-Tipped (Red Oaks)	Rounded-Tipped (White Oaks)
Upland	
Northern red oak Southern red oak Black oak Scarlet oak Blackjack oak Shingle oak**	White oak Chestnut oak Post oak Chinkapin oak* *saw-toothed but lacks bristle
Bottomland	
Pin oak Water oak** Cherrybark oak Nuttall oak Willow oak Shumard oak	Swamp chestnut oak Bur oak Overcup oak Swamp white oak

**some leaves may lack bristles

Distinguishing features of the **White oak group**

leaf tip and lobes are usually rounded; if lobes are pointed they do not have bristle-tips; acorns mature in a single season; inner shell of nut is smooth; acorns usually germinate in the fall and often taste sweet; bark is gray, whitish-gray or with shades of cream.

Distinguishing features of the **Red oak group**

leaf tip and lobes are usually bristle-tipped; acorns mature at the end of two growing seasons; inner shell of nut is usually woolly or silky; acorns usually germinate in the spring and normally taste bitter; bark is gray, black or brownish-black.

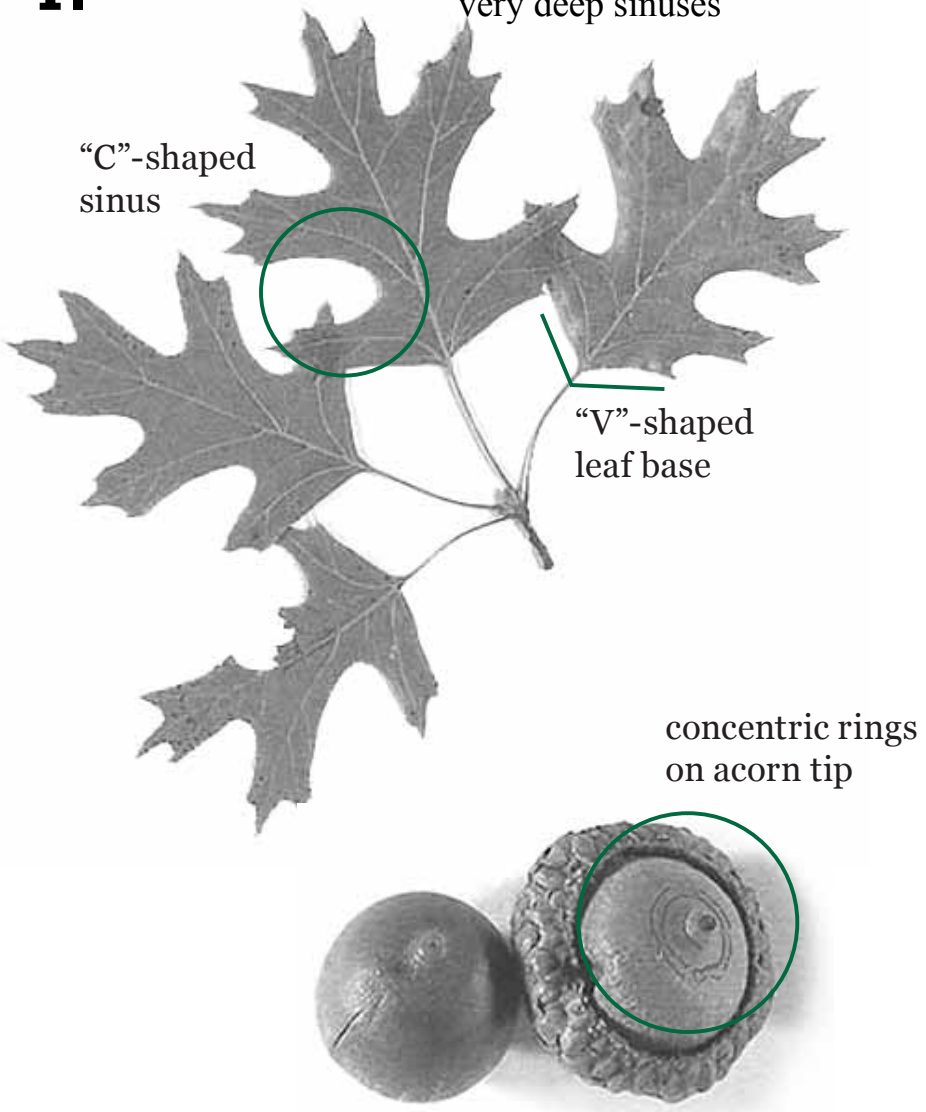
1.

very deep sinuses

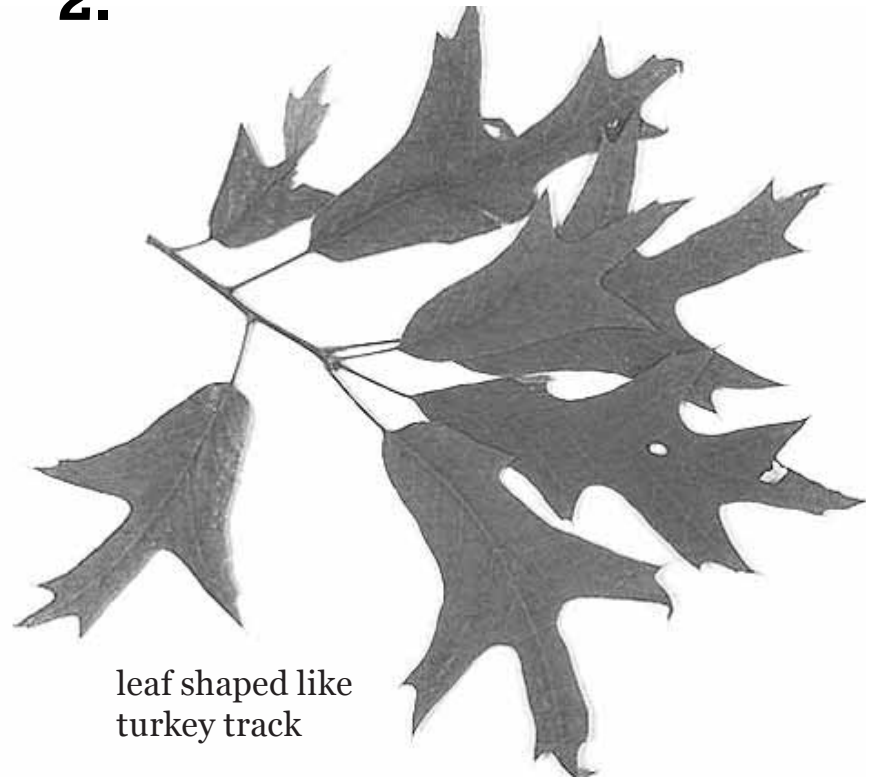
"C"-shaped sinus

"V"-shaped leaf base

concentric rings on acorn tip

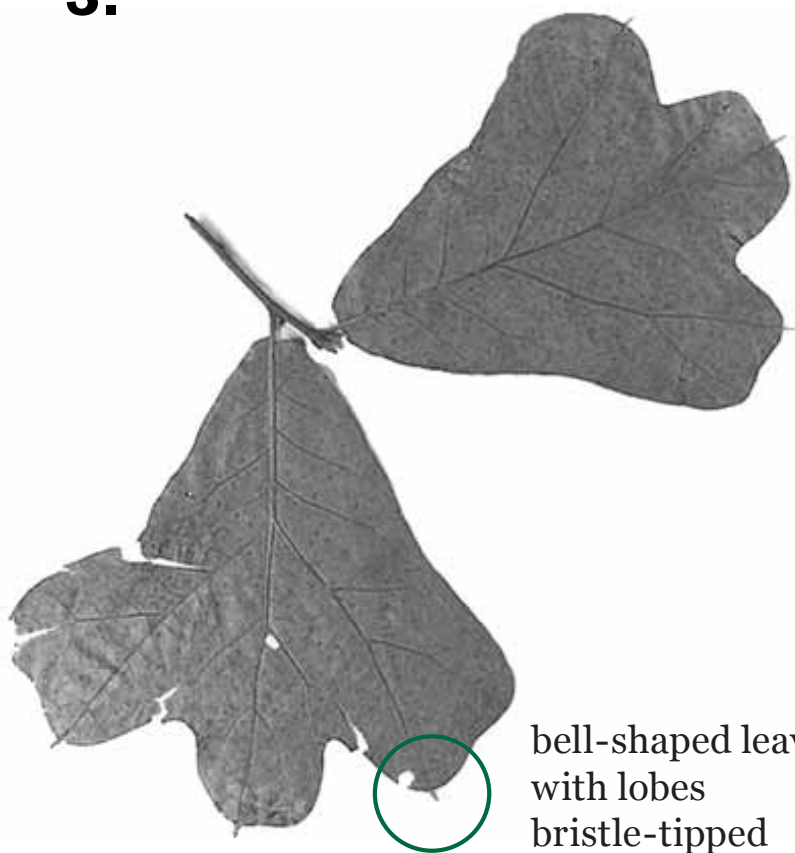


2.



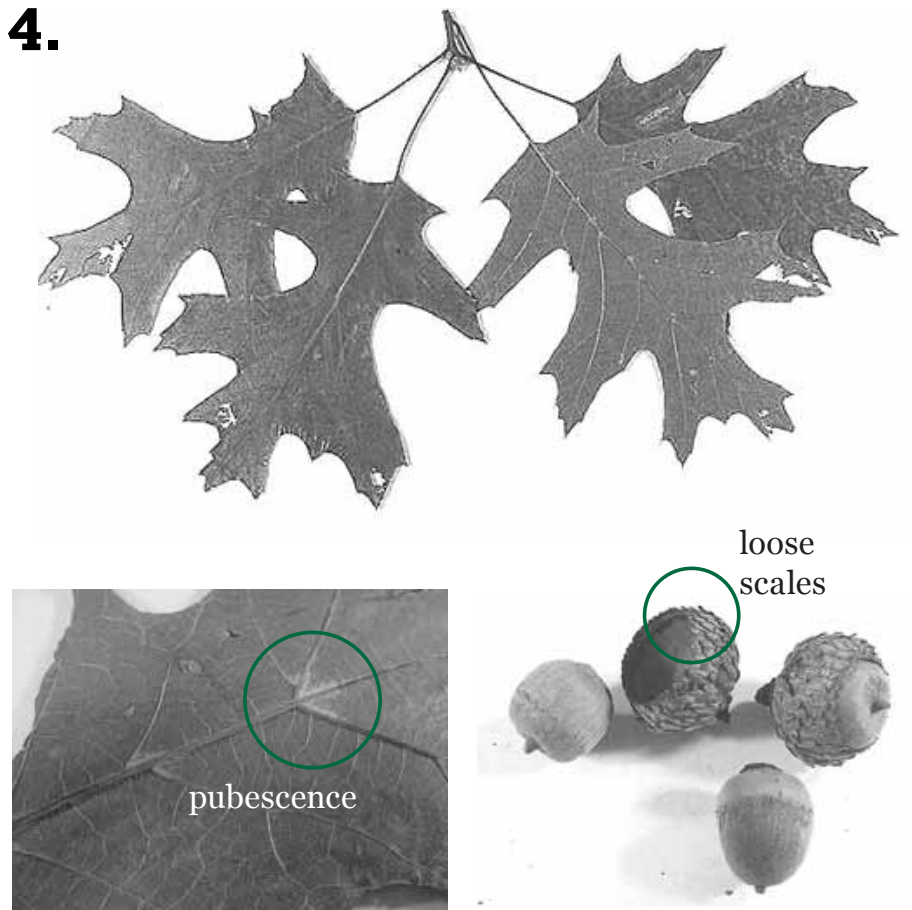
leaf shaped like turkey track

3.



bell-shaped leaves with lobes bristle-tipped

4.



loose scales

pubescence

2. Southern red oak (*Quercus falcata*)

Leaves - normally with three narrow but deep lobes (occasionally five to seven lobes); leaf often shaped like a turkey track, and if turned upside down, the base bell-shaped; rust-colored pubescence underneath; shiny above; leathery.

Acorn - $\frac{1}{2}$ " to $\frac{5}{8}$ " long; often rounded with pubescent, reddish-brown scaly cup that covers $\frac{1}{3}$ of the fruit.

Bark - dark and deeply furrowed when mature.

Twig - new twigs have orange pubescence; 2nd year twigs become smooth and dark red.

Buds - reddish-brown; pointed and pubescent.

4. Black oak (*Quercus velutina*)

Leaves - finely pubescent on undersurface (especially at the vein angles); five to nine lobes; leaves on lower branches are noticeably broader than those at the top of the tree.

Acorn - $\frac{1}{2}$ " long; oval with bowl-shaped, chestnut brown cup; cup with loose, overlapping scales at fringe, giving a ragged appearance.

Bark - dark and deeply furrowed when mature with blocky ridges; sometimes with orange inner bark and lacking long, smooth, shiny plates higher up on trunk (as with northern red oak).

Other - petiole unusually long, up to 5"; buds with gray pubescence.

1. Scarlet oak (*Quercus coccinea*)

Leaves - seven (rarely nine) lobes with very deep sinuses; each lobe ending with several sharp bristle tips; sinuses wide, round, "C"-shaped forming half-circles; tufts of hair where side veins join midvein beneath; leaf base normally not flattened (rather v-shaped).

Acorn - $\frac{1}{2}$ " to 1" long; egg-shaped, often with two to four concentric rings encircling the tip; cup bowl-shaped with tightly pressed scales and without ragged edge (as with Black oak).

Other - dead branches tend to hang on and are attached to the main trunk at right angles; gray-white hairs on upper half of bud. Sometimes the bark pattern is similar to northern red oak in the mid and upper trunk, but more blocky near the base.

3. Blackjack oak (*Quercus marilandica*)

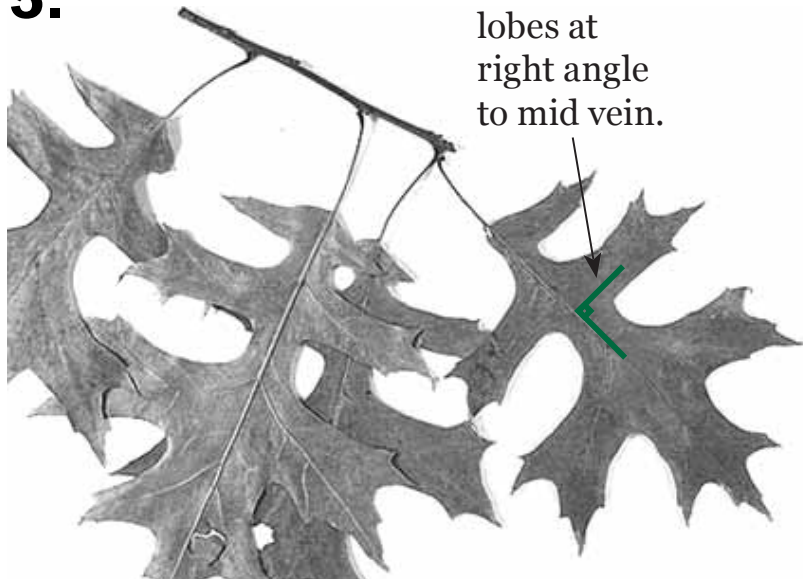
Leaves - three very shallow lobes mostly near the tip of leaf, each having a prominent bristle tip; bell-shaped; leathery; noticeably wider at the tip of leaf, tapering toward the base; orange pubescence beneath with thick orange midvein.

Acorn - oblong $\frac{5}{8}$ " to $\frac{3}{4}$ " long; light brown and sharply pointed at tip; cup is shaped like a top and thick, covering half the acorn, with rusty scales.

Buds - large for oak, up to $\frac{1}{2}$ " long; narrow, cone-shaped and somewhat woolly.
Petiole - short, stout, $\frac{1}{2}$ " long.

Other - very drought-tolerant and often found on rocky or shallow soils.

5.

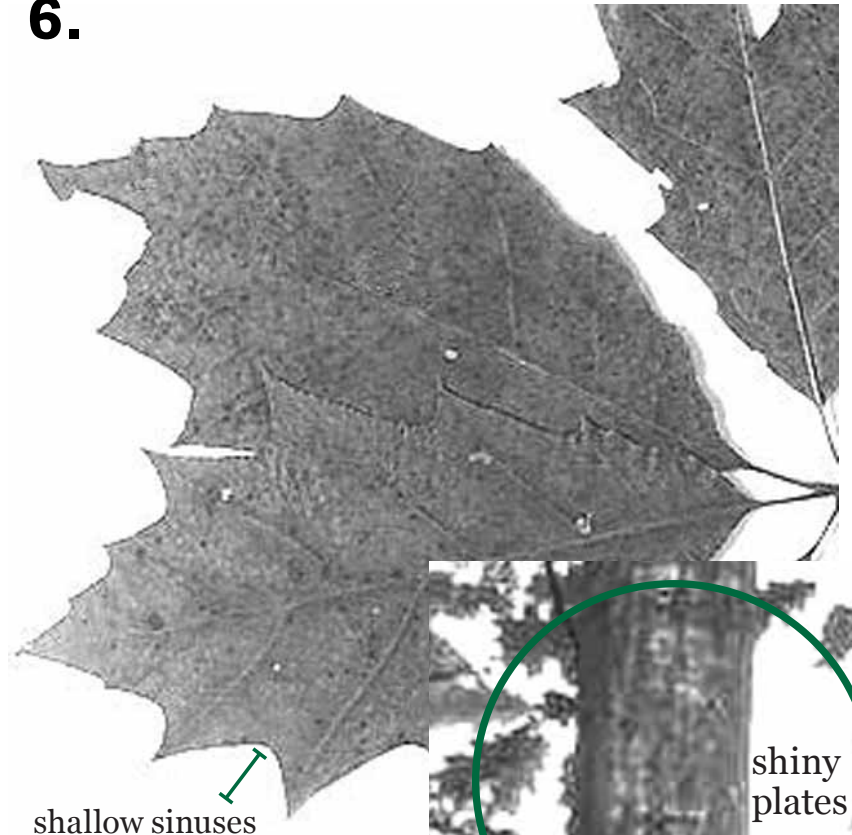


lobes at right angle to mid vein.

lower branches hang down



6.

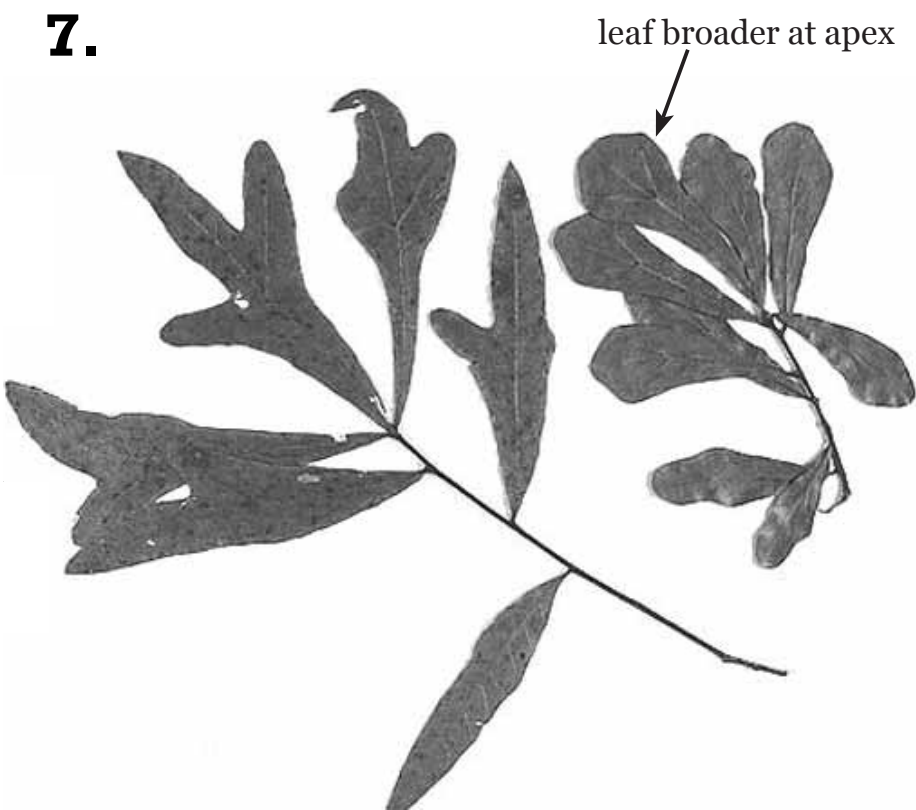


shallow sinuses



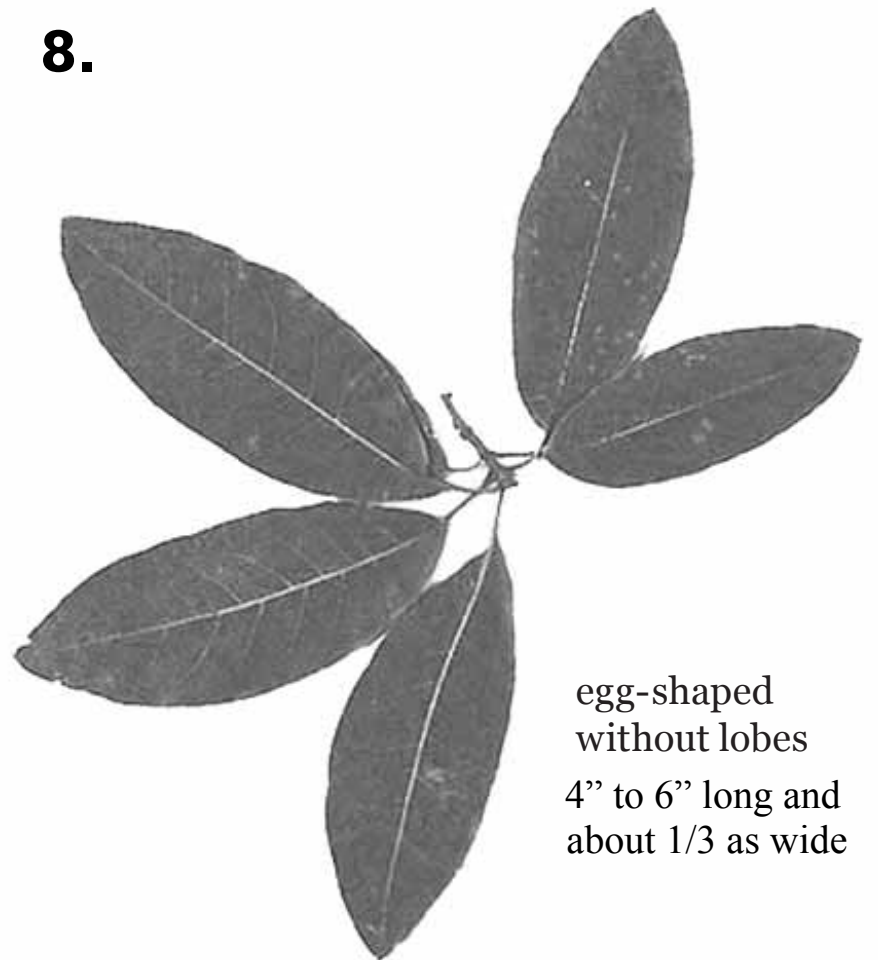
shiny plates

7.



leaf broader at apex

8.



egg-shaped without lobes
4" to 6" long and about 1/3 as wide

6. Northern red oak (*Quercus rubra*)

Leaves - seven to 11 lobes, shallow sinuses (cutting in less than 1/2 way to the midvein).

Acorn - oval; 1" long, 3/4" diameter; cup is flat, shallow and saucer-shaped with tight, overlapping scales.

Bark - mature bark is gray-black with long, smooth, shiny plates, especially higher up on trunk, resembling "ski trails."

5. Pin oak (*Quercus palustris*)

Leaves - five to seven wide lobes with deep sinuses; lobes are at right angles to midvein; leaf base more-or-less flattened; underside with tufts of hair at vein angles (similar to black oak); persistent through winter.

Acorn - very small (1/2" long); quite round, dark brown with mahogany red streaks from cup to tip; cup saucer-shaped, thin, red-brown, scaly.

Bark - light to dark brown; nearly smooth with scarce furrows and many small knots.

Other - having many short, side twigs that droop closer to the base; retaining dead (often pin-like) branches for many years.

8. Shingle oak (*Quercus imbricaria*)

Leaves - oval or egg-shaped without any lobes; brown pubescence below; 4" to 6" long and 1" to 2" wide; midvein yellow; persistent in winter.

Acorn - 1/2" to 3/4" long; nearly round with stout stalk; dark brown; pubescent with reddish-brown cup enclosing less than half the acorn.

Twig - first reddish-green becoming dark brown; smooth.

Other - could be confused with willow oak, but leaves are longer and broader (see page 13).

7. Water oak (*Quercus nigra*)

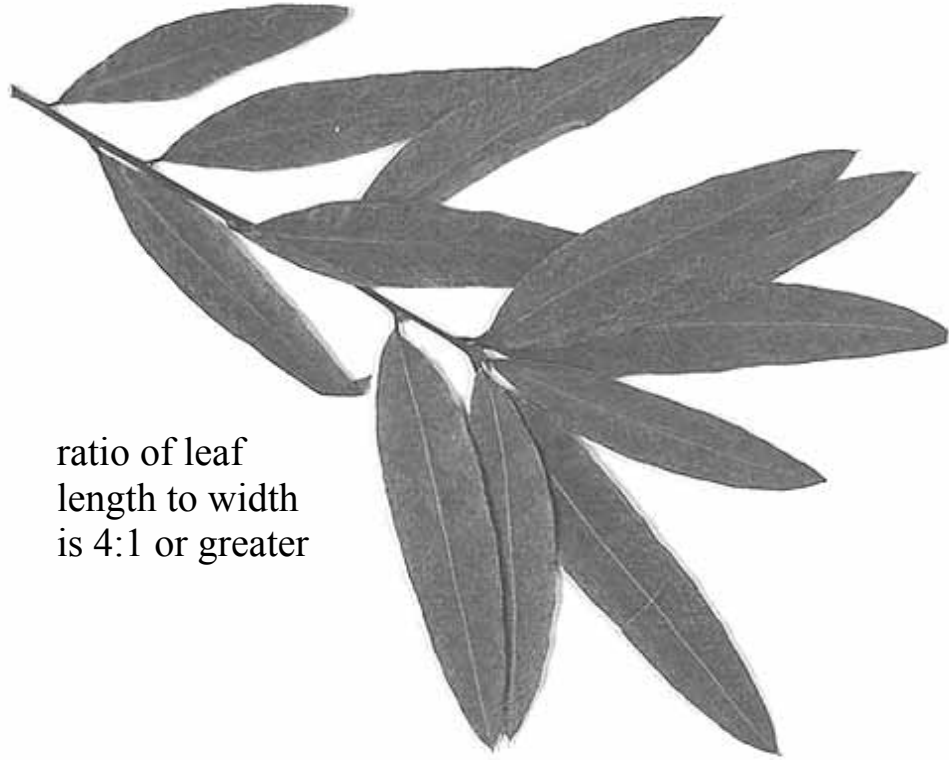
Leaves - variable in shape; mostly broader at apex (spatula or "duck-foot" shaped); 2" to 4" long, 1" to 2" wide; occasionally with three shallow lobes at apex only; pointed at base.

Acorn - 1/2" long; light brown to jet black with pubescent apex; barely enclosed by a thin cup; saucer-shaped.

Bark - grayish-black; mostly smooth with narrow, scaly ridges.

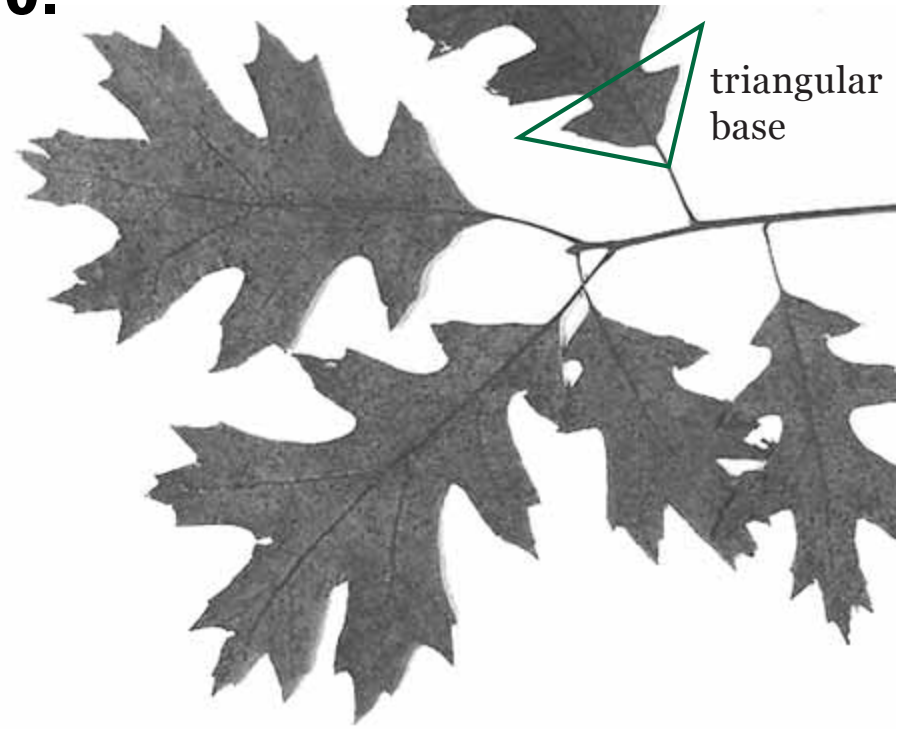
Petiole - short, stout, flattened.

9.



ratio of leaf length to width is 4:1 or greater

10.



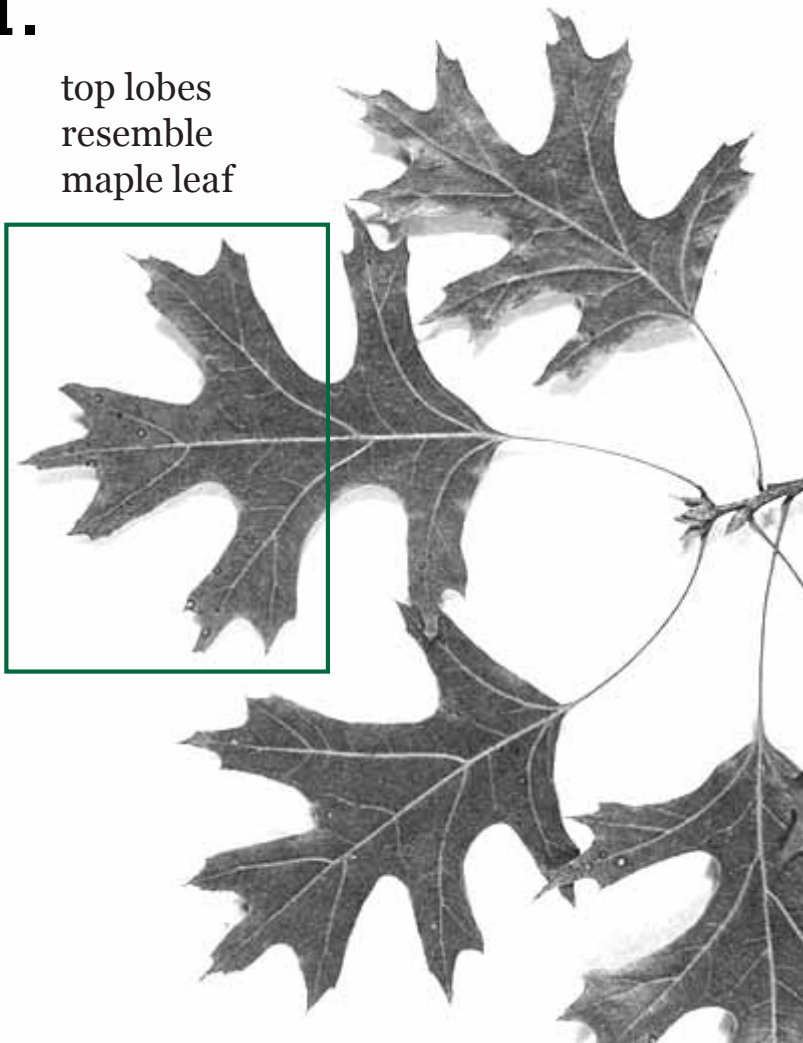
triangular base

tight, flaky bark



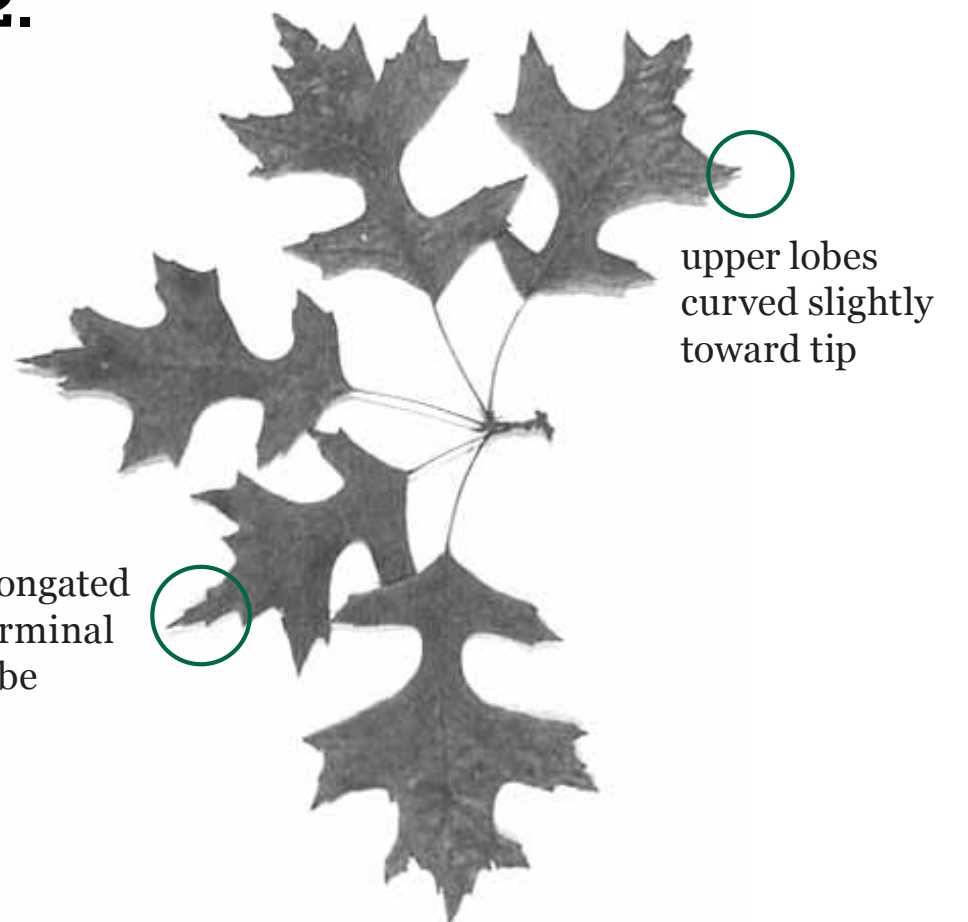
11.

top lobes resemble maple leaf



12.

elongated terminal lobe



upper lobes curved slightly toward tip

10. Cherrybark oak (*Quercus pagoda*)

Leaves - five to 11 broad, shallow lobes; rust-colored pubescence beneath; first pair of lobes at base form an inverted triangle.

Acorn - $\frac{1}{2}$ " long; resembling a flattened ball.

Bark - gray-black, with tight flakes, resembling that of a black cherry tree.

Buds - pubescent, deep red-brown, pointed.

Twig - pubescent when young.

9. Willow oak (*Quercus phellos*)

Leaves - 2" to 5" long and only $\frac{1}{2}$ " to 1" wide; long, narrow, lance-shaped without any lobes; margins sometimes wavy; resembling a willow tree.

Acorn - $\frac{1}{2}$ " long; bluntly pointed at apex; yellowish-brown; cup greenish-brown, thin, saucer-shaped.

Bark - dark gray, smooth and hard; becoming black and rougher with ridges and plates.

Other - petiole slender, short, $\frac{1}{4}$ " long.

12. Nuttall oak (*Quercus nuttallii*)

Leaves - five to seven narrow, long, pointed lobes; wide sinuses; dull dark green above, paler with tufts of hair in vein angles below. The terminal lobe is usually elongated and the upper lobes usually curve slightly toward the leaf tip.

Acorn - $\frac{3}{4}$ " to $1\frac{1}{4}$ " long; longer than broad, dark striped; cup deep, scaly.

Bark - gray and smooth, becoming shallowly fissured with age.

Other - resembles pin oak except Nuttall has larger, longer acorn and fewer retained, dead side twigs.

11. Shumard oak (*Quercus shumardii*)

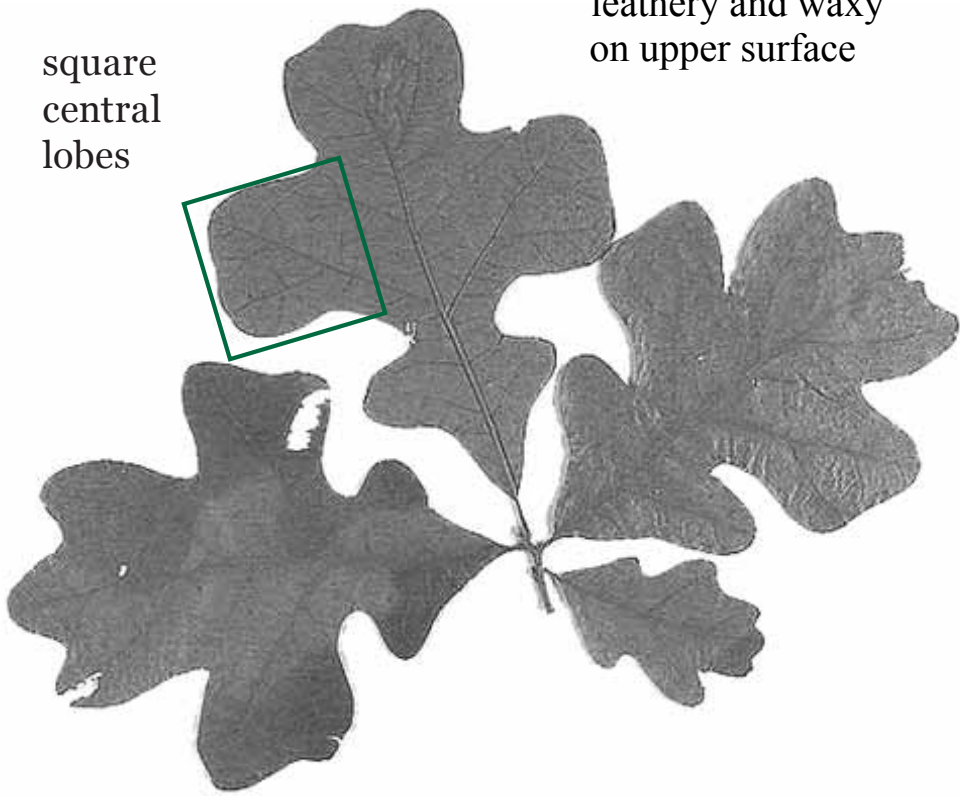
Leaves - seven to nine lobes; top three lobes when viewed separate from rest of leaf resemble shape of maple leaf; large rounded sinuses; dark green and slightly pubescent above, dull green below with tufts of hairs at the vein angles.

Acorn - large, egg-shaped, up to $1\frac{1}{4}$ " long and 1" wide; cup shallow with blunt, overlapping scales.

Bark - gray to dark gray; smooth becoming slightly furrowed with ridges.

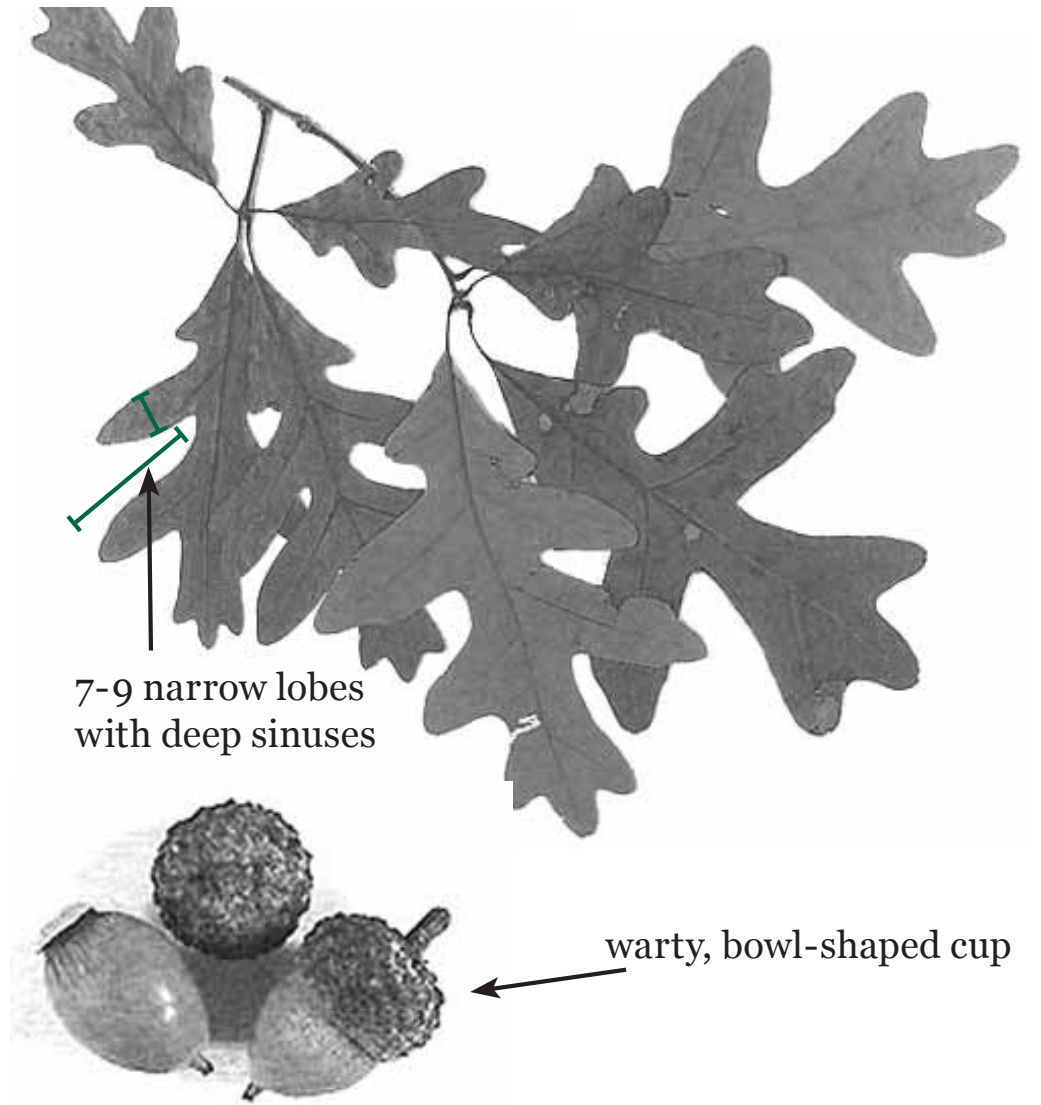
13.

square
central
lobes



leathery and waxy
on upper surface

14.

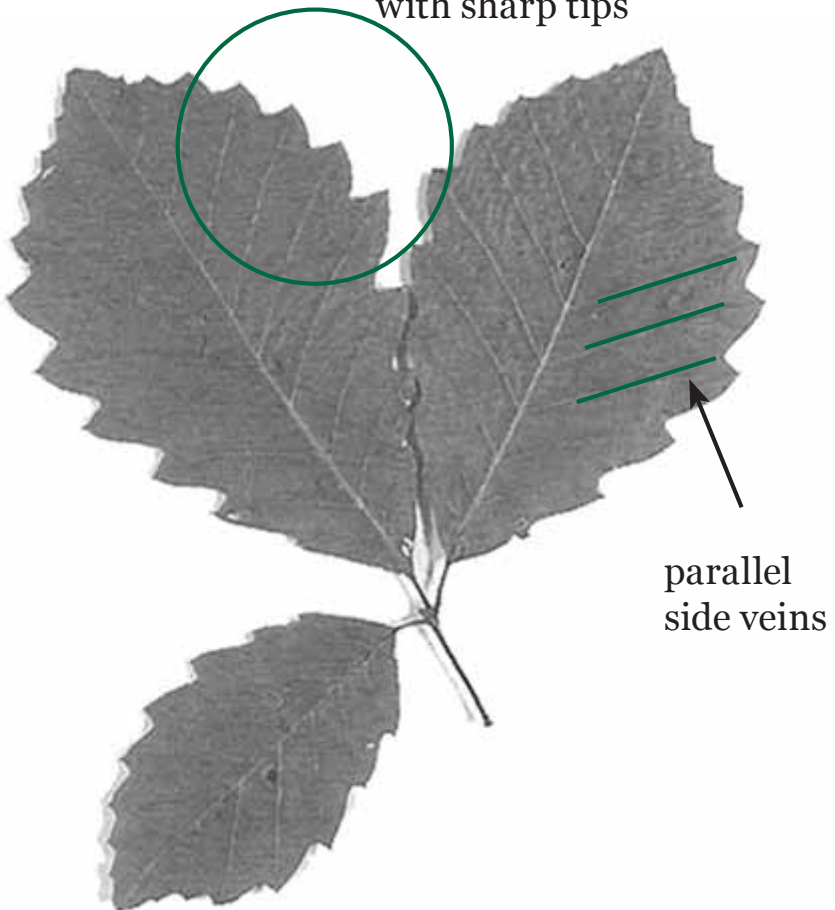


7-9 narrow lobes
with deep sinuses

warty, bowl-shaped cup

15.

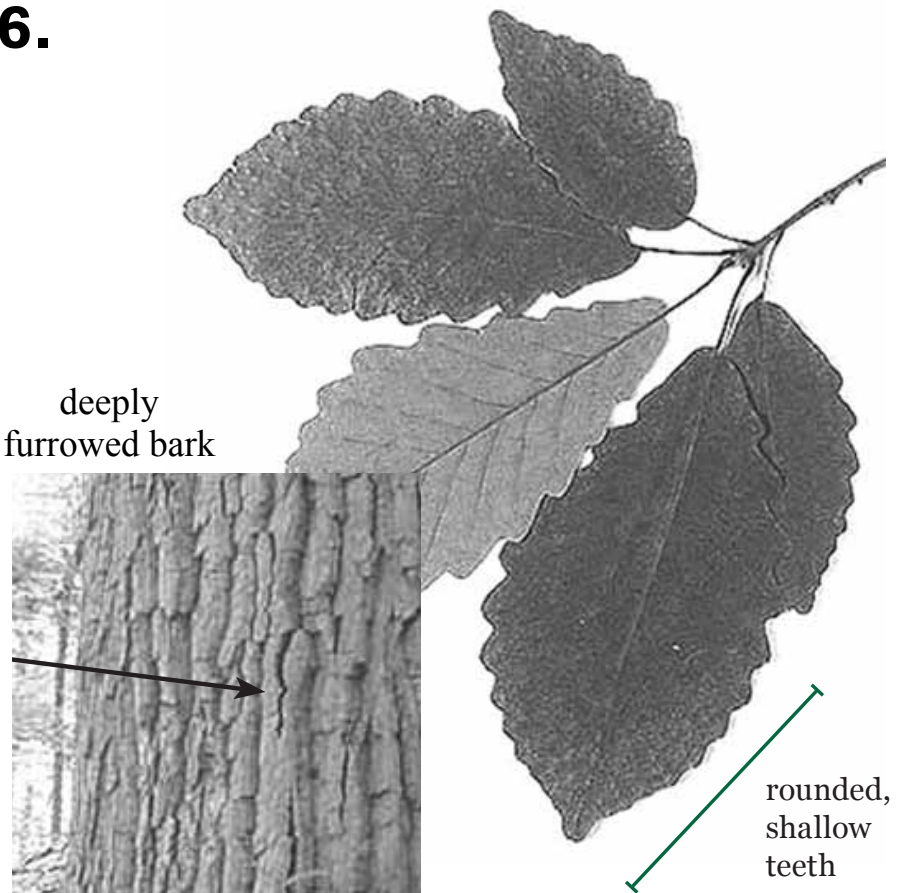
curved teeth
with sharp tips



parallel
side veins

16.

deeply
furrowed bark



rounded,
shallow
teeth

14. White oak (*Quercus alba*)

Leaves - mostly with seven to nine narrow lobes having deep sinuses (occasionally shallow); base wedge-shaped; mid-vein yellow; widest near middle, then tapering to base.

Acorn - $\frac{3}{8}$ " to $1\frac{1}{4}$ " long; oblong; light brown; cup is thick, warty and bowl-shaped; cup scales slightly fused together.

Bark - gray or whitish gray with patches; both deeply furrowed or somewhat scaly and overlapping.

Buds - nearly rounded, reddish-brown or gray, $\frac{1}{8}$ " long.

13. Post oak (*Quercus stellata*)

Leaves - leathery; three main lobes (two large central lobes squarish on ends) with broad sinuses, giving the leaf the appearance of a cross or "+"; waxy above and pubescent below.

Acorn - $\frac{1}{2}$ " to $\frac{3}{4}$ " long; elliptical; pubescent at tip; with fine lines; cup covers $\frac{1}{3}$ of acorn.

Bark - gray or light brown divided into flat, squarish-plates.

Twig - stout, brown with pubescence.

Other - often having a flattened appearance to crown if growing on a dry site.

16. Chestnut oak (*Quercus montana*)

Leaves - margin with 10 to 16 rounded, shallow teeth on each side; inverted egg-shape (wider near apex); base wedge-shaped; stout yellow mid-vein; underside often pubescent.

Acorn - $\frac{3}{4}$ " to $1\frac{1}{4}$ " long; oval, bright, shiny brown; cup thin, enclosing $\frac{1}{3}$ of fruit.

Bark - gray; becoming thick and deeply furrowed into broad or narrow ridges (resembling flattened gear teeth) with age.

Twig - stout; purplish-brown, becoming reddish brown with age.

15. Chinquapin oak (*Quercus muehlenbergii*)

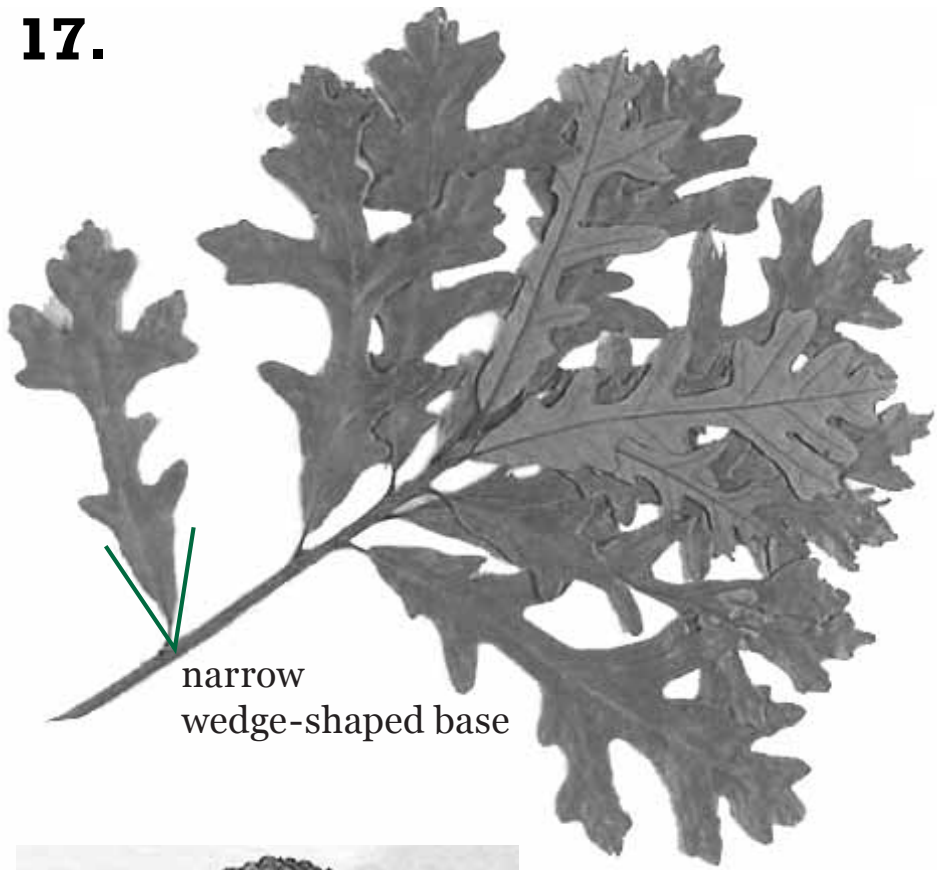
Leaves - margins coarsely saw-toothed; stout yellow midvein; many parallel side-veins ending in a curved tooth with a sharp tip.*

Acorn - $\frac{1}{2}$ " to 1" long; egg-shaped; dark brown to black; cup bowl-shaped enclosing up to $\frac{1}{2}$ of the fruit; scales brown, mostly fused together.

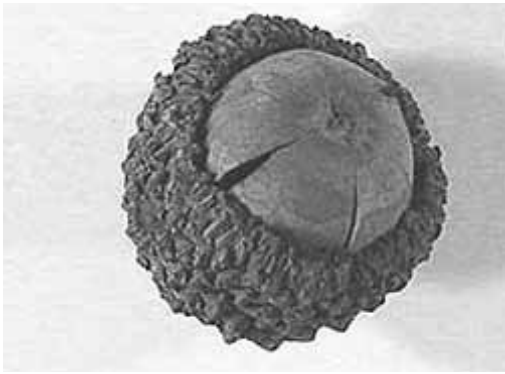
Bark - pale-gray or creamy colored with finely-scaled ridges; resembles white oak, but flakes more easily.

*toothed leaves not typical of the white oak group

17.

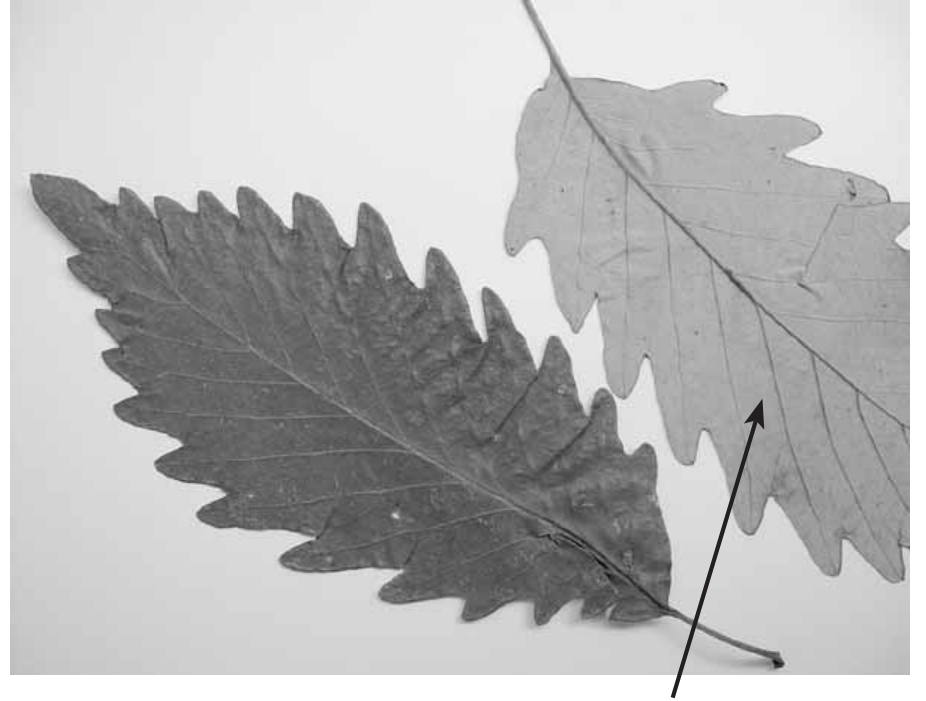


narrow wedge-shaped base



acorn mostly enclosed by cup

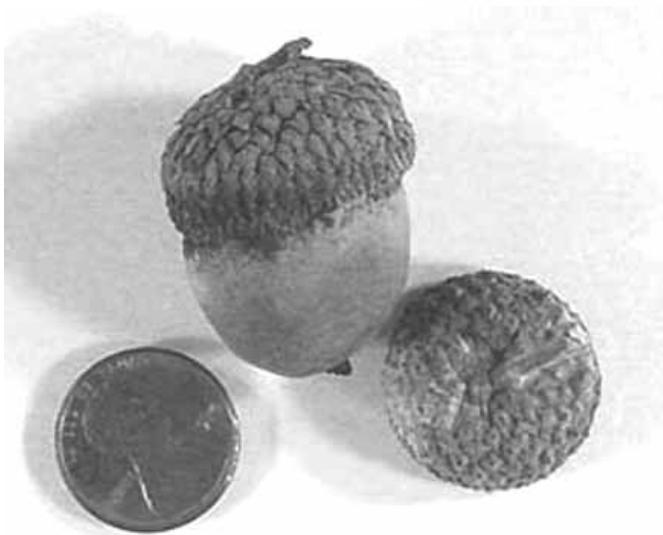
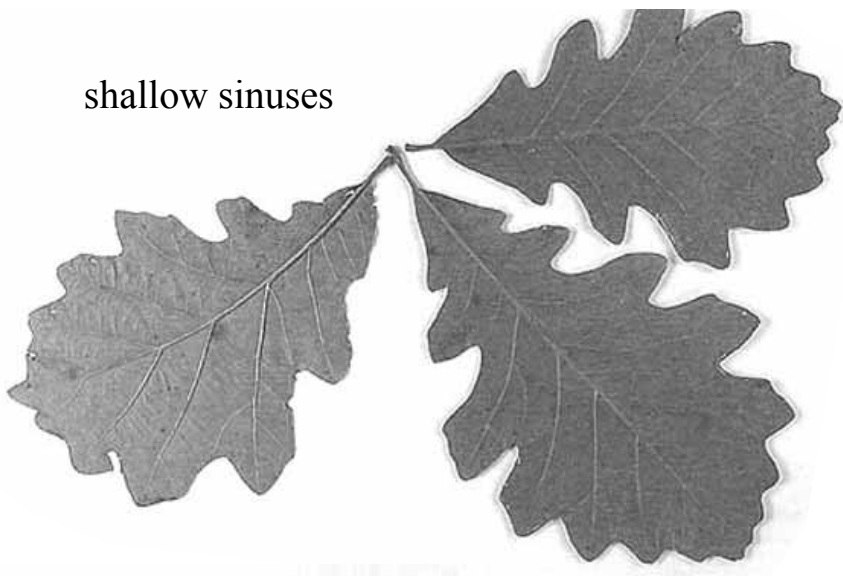
18.



silvery, pubescent undersurface

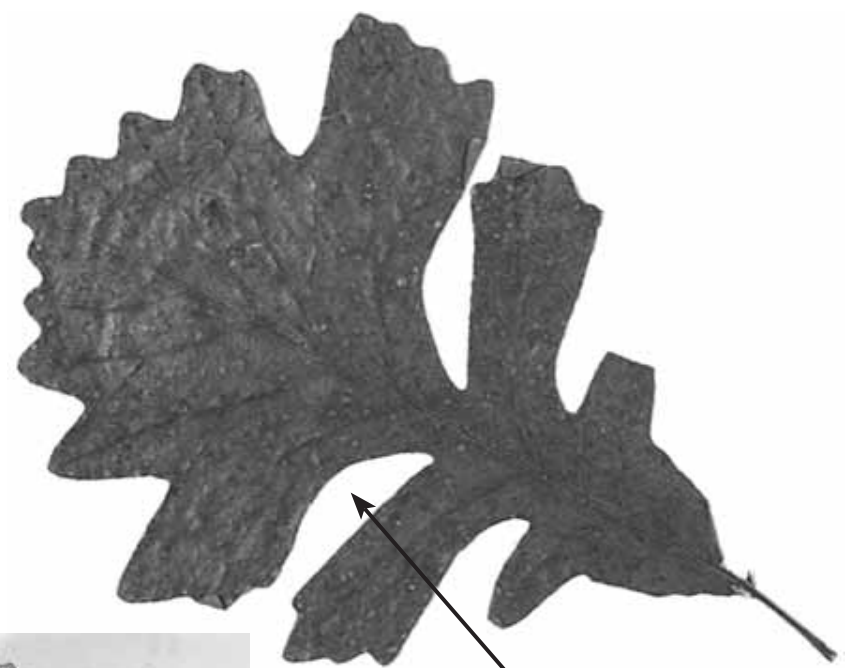
19.

shallow sinuses



large acorn

20.



deep sinus at midpoint



large (2") acorns with hair-like cup scales

18. Swamp chestnut oak (*Quercus michauxii*)

Leaves - coarsely wavy-toothed (10 to 14 on each side); sinuses deeper than Chestnut or Chinquapin oaks; lobes pointing toward tip; often each tooth with fine tip; narrower at base and widest just above center; dark green above, pale with silvery pubescence below.

Acorn - quite large, 1" to 1½" long; oblong; cup encloses 1/3 of fruit; many overlapping, hairy, brown scales.

Bark - light gray with small scaly plates.

Note - resembles Chinquapin oak (upland oak) except typically found in poorly drained bottomland and flood plains.

17. Overcup oak (*Quercus lyrata*)

Leaves - very irregular five to nine lobes; wider near apex than base; up to 10" long and 4" broad; base a distinct narrow wedge.

Acorn - ½" to 1" long with cup almost entirely enclosing fruit; usually broader than long.

Bark - gray or grayish-brown; with flat, squarish plates.

Other - leaf resembles spatula-shape as with Water oak, only much larger and with deeper sinuses.

20. Bur oak (*Quercus macrocarpa*)

Leaves - 6" to 12" long, 3" to 6" wide, five to nine lobes, having an upside-down egg shape; very deep sinus at the midpoint extending nearly to midvein; pale pubescence below.

Acorn - very large, up to 2"; cup is fringed with loose ¼" to ⅓" hair-like scales; cup covers up to ¾" of fruit.

Bark - dark brown or yellow-brown; deeply furrowed.

19. Swamp white oak (*Quercus bicolor*)

Leaves - Shallow sinuses with many shapes; dark lustrous green above, pale pubescent below; somewhat leathery.

Acorn - large acorn; born in pairs and often have long (2" to 4") stalks.

Bark - grayish-brown, deeply furrowed, becoming flaky.

Other - bark on branches usually flaky.